

## Algebra II Chapter 1 Test #2

Name Key

**Solve each for the given variable.**

1.  $x(y + 2) = z$ , for  $y$   $\frac{z - 2x}{x}$

2.  $5a - 6b = 9$ , for  $b$

$\frac{9 - 5a}{-6}$

3.  $qr + s = t$ , for  $q$   $\frac{t - s}{r}$

**Solve the inequalities.**

4.  $7x + 13 > 27$   $x > 2$

5.  $32 > -6x + 2$   $x > -5$

6.  $-8x - 1 > 15$   $x < -2$

7.  $(x - 3)/5 < 2$   $x < 13$

8.  $10 > x/2 + 4$   $x < 12$

9.  $10x + 9 > 59$   $x > 5$

**Solve each equation.**

10.  $|3x| = 9$   $3, -3$

11.  $|-6x| = 30$   $-5, 5$

12.  $|-4 + 5x| = 16$   $4, \frac{-12}{5}$

13.  $|-2x - 1| = 11$   $-6, 5$

14.  $|x + 8| - 5 = 2$   $-1, -15$

15.  $3|-8x| + 8 = 80$   $-3, 3$

16.  $5 - 8|-2x| = -75$   $-5, 5$

17.  $5|9 - 5x| - 7 = 38$   $0, \frac{18}{5}$

**Solve each inequality and graph its solution.**

18.  $|6x| < 18$

$-3 < x < 3$



19.  $|m - 2| < 8$

$-6 < m < 10$



20.  $|x| + 5 > 11$

$x > 6$  or  $x < -6$



21.  $|x - 4| - 3 < 5$

$-4 < x < 12$





22.  $|x - 2| - 5 < -2$

$-1 < x < 5$



24.  $9|x - 2| - 10 < -73$

$\emptyset$

23.  $7 + |6x + 7| < 60$

$-10 < x < \frac{23}{3}$



25.  $9|3x - 2| + 6 > 51$

$x > \frac{7}{3}$  or  $x < -1$



